

ECA Update: December 11, 2015

In this update:

IG Report: Procurement of Parts and Materials for the Waste Treatment and Immobilization Plant at the Hanford Site
ECA Staff

E. Idaho eyed as site for small commercial nuclear reactors
AP: SF Chronicle

Los Alamos Cleanup Past Due
Santa Fe Reporter

Critics of U.S. plutonium cleanup program seize on new report
Reuters

Radioactive Spent Nuclear Fuel Piling Up In US: EIA
Value Walk

The politics of nuclear waste disposal
The Hill

IG Report: Procurement of Parts and Materials for the Waste Treatment and Immobilization Plant at the Hanford Site
ECA Staff

The Office of Inspector General has issued a report titled "Procurement of Parts and Materials for the Waste Treatment and Immobilization Plant at the Hanford Site," (DOE-OIG-16-03).

This report can be viewed online [here](#).

E. Idaho eyed as site for small commercial nuclear reactors
AP: SF Chronicle
December 9, 2015
[LINK](#)

BOISE, Idaho (AP) — U.S. Department of Energy officials and an energy cooperative with members in eight states are negotiating a plan that could lead to the construction of small commercial

More Information

[About ECA](#)

[Membership](#)

[Contact Us](#)

[Helpful Links](#)

To help ensure that you receive all emails with images correctly displayed, please add ecabulletin@aweber.com to your address book or contact list

[Subscribe](#)
to the
ECA Email Server

[Online Version](#)
If you have trouble viewing this email, view the online version

Interested in learning about the
Annual DOE National Cleanup Workshop?

Visit
www.cleanupworkshop.com

[Follow @EnergyCAorg](#)
on Twitter!

Calendar

[Deadline for Congress to Pass an Omnibus Appropriations Bill or CR Funding the Government](#)
December 11

nuclear reactors at an eastern Idaho federal nuclear site.

Officials with Utah Associated Municipal Power Systems said the 890-square-mile site containing the Idaho National Laboratory is their preferred choice for what are called small modular reactors.

"There is a lot of space and the early indication is that there is water and there is good (power line) transmission," said LaVarr Webb, company spokesman. "The local leaders seem to be supportive and the (Department of Energy) also seems to be supportive."

Webb said he expected the company and the federal agency in the next several months to sign a site-use permit, which he described as not a final decision, but a good-faith agreement to move ahead with locating the nuclear reactors at INL.

The company said if it decides to move forward with the small nuclear plants, they likely wouldn't be operational before 2023. The Energy Department on Wednesday confirmed that the area is being considered but offered no details. The agency contracts with Battelle Energy Alliance to run the Idaho National Laboratory.

"We'd certainly love to be the host" of the small modular reactors, said Todd Allen, the lab's deputy director of science and technology. "If we can support small modular reactors, we'd be glad to do that."

Oregon-based NuScale Power would build the reactors that can individually produce 50 megawatts. Additional reactors could be built as power demands grow, with up to 12 reactors producing 600 megawatts.

"A small modular reactor is not dissimilar to the small nuclear reactors that have been operating in our nuclear submarines for over 40 years," NuScale Chief Commercial Officer Mike McGough said.

He said the small reactors are designed to be safer than conventional nuclear plants by being able to shut down without human involvement in the event of a disaster.

"The plant shuts itself down and cools itself off with no operator action and with no water and no source of electricity," he said.

He said the company is in the process of completing an application

to the Nuclear Regulatory Commission for the reactors. He described the application as a 12,000-page book that will undergo a 40-month review. If everything advances, work on the modules could begin before 2020.

The small reactors are less expensive, McGough said, than conventional nuclear reactors. The cost for 12 small modular reactors is about \$3 billion, he noted, compared to about \$15 billion for a conventional plant. Part of the cost savings comes from building the modular reactors at a factory and then trucking them to a location, he said.

Cost is a big concern for Utah Associated Municipal Power Systems, said Webb, noting that the group is relatively small compared to larger power suppliers in the region. The city of Idaho Falls, just east of the Idaho National Laboratory, is one of its 45 members in eight Western states.

Because of the modular reactor design, he said the company could initially buy just a few of the reactors and then add more as power demand increases in future years. He said the company owns portions of several large coal plants with life cycles that end in 2025.

The company "is looking at, if all goes well and this goes forward, looking at replacing that coal electricity with the emission free, clean nuclear generated electricity," Webb said.

Los Alamos Cleanup Past Due

Santa Fe Reporter

December 8, 2015

[LINK](#)

Had the cleanup at Los Alamos National Laboratory gone as planned, this weekend would have marked the closure of a decade-long effort to remediate the effects of a 70-year legacy of making and maintaining nuclear bombs. Instead, the deadline stated in the 2005 consent order, an agreement between the US Department of Energy and the lab on how and when to clean up radioactive and toxic waste stored on site, often in unlined pits, trenches and shafts, and the contaminated buildings that housed lab operations, for the last major project, a cleanup of the largest waste dump site at the lab, came and went on Dec. 6. Instead, that milestone is still decades and millions of dollars away, and the state and federal government are beginning discussions to draft a new plan and

schedule for it.

“That we don’t have a schedule and viable plan is something I think puts us at a disadvantage as a state when it comes to securing funding,” New Mexico Environment Department Secretary Ryan Flynn said in a November meeting with the Northern New Mexico Concerned Citizens' Advisory Board.

Meanwhile, the state and federal government are still mired in the effort to settle the latest backfire from cleanup efforts, a spill that contaminated the Waste Isolation Pilot Plant, the nation’s only long-term storage facility for transuranic waste. The parties won’t move forward on crafting a new consent order, and a new set of deadlines and schedules, until that settlement is finalized.

"We are looking forward to finalizing the \$73 million settlement agreement with the Department of Energy so that we may all move closer to the day when the Waste Isolation Pilot Plant will re-open and resume the safe underground disposal of transuranic waste from our nation’s nuclear defense complex," Allison Scott Majure, NMED communications director, said in an emailed statement.

“It’s delay, delay, delay,” says Jay Coghlan, director of Nuclear Watch New Mexico, a watchdog group that took the occasion to sound the alarm on the practices and failures that they see bogging down cleanup at the lab. “Under the Martinez administration, the [New Mexico Environment Department] granted more than 150 extensions, which is the opposite of enforcement, and essentially eviscerated the consent order and we see declining levels of funding for cleanup at Los Alamos.”

The concern is that the longer this cleanup is postponed, the more it will fade from memory, and the less people will think to argue for a cleanup that could bring jobs to the area now, and protect its groundwater for the long term.

“We hear that we can’t afford to do cleanup and at the same time the US government is ready to embark on a trillion dollar modernization of nuclear forces, so budget arguments against cleanup ring pretty hollow in our view,” Coghlan says. “Go ask the public what they want, and ask northern New Mexicans what they want. They want cleanup over weapons.”

The latest comments from New Mexico Environment Department indicate that the public will have some say in the cleanup, just not until after a draft is done that they can comment on. But that means

public input comes in when the deal is done, Coghlan says, and he'd like to see it run the other way around. In a September letter to Flynn, and again during the November meeting, he reiterated the need for a public hearing and argued the existing consent order requires one.

It'll be up to NMED to decide whether to hold public hearings, and Flynn said in November that adding public hearings to the process would increase the time required to complete the new consent order—and the existing document, again, expires this month—by nine to 18 months and might only yield a long list of recommendations the state has no authority to act upon. That doesn't mean the department isn't committed to working on transparent lines, he said, and during that meeting he particularly sought input from the Northern New Mexico Concerned Citizens' Advisory Board on their priorities and concerns.

The milestone missed this weekend was for Area G, the lab's primary waste disposal facility from 1957 to 1997. Hazardous wastes were disposed of there in unlined pits, trenches and shafts. The 10-year Consent Order agreed upon by the US Department of Energy and the Los Alamos National Laboratory in 2005 set Dec. 6, 2015 for a final report on remediating that waste, likely through a cap and cover approach.

While a short supply of funding has pinched cleanup, the efforts also weren't helped by the discovery, after the consent order was finalized, of a chromium plume that now seems to be approaching the regional aquifer and the 3706 Campaign to move 3,706 cubic meters of radioactive waste to the Waste Isolation Pilot Plant—and the spill of contaminants and shut down at that plant.

Flynn has also expressed the hope that a new consent document, and a new set of deadlines rather than a long list of milestones far past their due dates, will assist the state in securing funding to speed cleanup efforts. There is not yet a set timeline for when that document will be completed. NMED maintains that the existing consent order stands until replaced.

Critics of U.S. plutonium cleanup program seize on new report

Reuters

December 8, 2015

[LINK](#)

Critics of a multibillion-dollar program to convert excess U.S.

weapons-grade plutonium into fuel for commercial nuclear reactors under a 2000 treaty with Russia have seized on a newly disclosed report to renew calls for an end to the project.

The fiscal 2016 defense authorization law includes \$345 million in funding for a plant under construction at the DOE's Savannah River site in South Carolina, which will take 34 metric tons of plutonium and mix it with uranium to form safer mix-oxide (MOX) fuel pellets for use in commercial nuclear reactors.

Congress must still appropriate the funding authorized in the law, but supporters say they do not expect any issues.

Critics argue the MOX project should be halted after years of delays and cost increases, even though any changes could jeopardize one of the few agreements with Russia that is still running smoothly.

Francie Israel with the National Nuclear Security Administration said the U.S. Department of Energy (DOE) was continuing work on the project for now, but several analyses had shown that diluting the plutonium and disposing of it at a site in New Mexico would cost less than half of the MOX approach.

Russia has its own program to eliminate 34 metric tons of plutonium.

A previously undisclosed report completed by privately-held Aerospace Corp for DOE in August concluded that diluting and disposing of the plutonium - or downblending - was the least technically complex of several alternatives and had the lowest cost risk since no new facilities were required.

"This report confirms that ... the downblending option is clearly less complex, less risky and cheaper," said Edwin Lyman, senior scientist at the Union of Concerned Scientists, urging Congress to end its parochial support for the MOX program.

Lyman said DOE would likely seek to end funding for the project as part of its fiscal 2017 budget proposal. Aerospace concluded in an April report that it could cost \$30 billion to complete the MOX facility, nearly 10 times the estimate of the company, CBI-Areva MOX Services.

CBI-Areva MOX Services, a joint venture of U.S.-based Chicago Bridge & Iron NV and Areva SA, a French state-owned nuclear

group, argues that the U.S. project is already 68 percent complete and it will be done in 5 to 9 years. The company says it will cost \$3.3 billion to complete the work, on top of the \$4.5 billion already spent.

A Nov. 16 review completed by High Bridge Associates, a project management firm, for CBI said the downblending option was risky because cramming too much nuclear material into the New Mexico facility could result in a fission reaction.

It said that adding material to the site would require a new environmental impact statement, which could delay work on the site if it sparked calls for the facility's design life to be extended to 1 million years from 10,000 years, just as has occurred for the Yucca Mountain site in Nevada.

The High Bridge report also raised concerns that a change in the U.S. approach could prompt Russia to withdraw from the 2000 treaty, as it has done with others, reversing nuclear non-proliferation efforts at a time of growing tensions with Moscow.

Radioactive Spent Nuclear Fuel Piling Up In US: EIA

Value Walk

December 8, 2015

[LINK](#)

Although nuclear energy is often touted as a “pollution-free energy source,” that it is really not accurate. Not only do nuclear power plants constantly spew out minute amounts of radiation in the steam they emit, nuclear power also produces thousands of tons of spent nuclear fuel or so-called “nuclear waste.”

According to the U.S. Energy Information Administration, nuclear waste is piling up all across America, with the total amount of nuclear waste in the U.S. today topping 70,000 metric tons. Nuclear waste is clearly becoming a major problem in the U.S. today. The most recent U.S. Nuclear Fuel Data Survey data indicate a total of 241,468 fuel assemblies, totaling up to around 70,000 metric tons of uranium, are being stored at 118 commercial nuclear reactors in the U.S. This spent nuclear fuel results from operations at nuclear power plants from 1968 through June 2013.

Of note, Illinois, Pennsylvania, and South Carolina have the highest amount of stored nuclear material, with over 4,000 MTU in

each state.

The EIA report highlights that nuclear reactors are fueled by fissionable material (typically uranium), that is enriched and made into fuel rods. The fuel rods are linked together to form fuel assemblies, which are then put in the reactor core and irradiated. Fuel assemblies can be used in nuclear reactors for a number of cycles, with each cycle somewhere between 18 and 24 months. Following the cycle of multiple irradiations, the spent fuel assemblies are highly radioactive and high security storage is required.

Keep in mind that there are two common storage methods used for spent fuel: spent fuel pools and dry cask storage. Spent fuel pools means storing spent fuel assemblies in pools of cold water that cool the assemblies as well as provide some protection from radiation. Dry cask storage is when spent fuel previously cooled in a spent fuel pool (at least three years) to be placed inside a metal cask filled with an inert gas. The casks has several layers around it, typically made of concrete and steel, to prevent radiation from leaking out.

The EIA notes that standards for spent nuclear fuel storage are set by the U.S. Nuclear Regulatory Commission.

Of interest, close to two-thirds of total spent nuclear fuel comes from pressurized-water reactors, and around one-third from boiling-water reactors. Almost all spent nuclear fuel is stored on-site at the nuclear power plants in the U.S. Although it is not done anymore because of the risks involved, around 1% of the total amount of U.S. nuclear waste was transported from the nuclear plants to off off-site storage facilities.

The politics of nuclear waste disposal

The Hill

December 8, 2015

[LINK](#)

The closure of nuclear power plants — seven at last count — and the role of nuclear power in a low carbon world has received a fair amount of media coverage, including a piece in The Hill. What hasn't, however, is what to do about the nuclear waste stored at these plants and which will continue to be stored at these abandoned facilities for many decades to come. While the topic has become a political hot potato, some in Congress, like Illinois Rep.

John Shimkus (R), a senior member of the House Energy and Commerce Committee, recognize its importance and the need to address it in short order.

First, it's important to understand the reasons for the trend toward closures. The U.S. nuclear fleet is old. While many licenses to operate have been extended, required upgrades are expensive and regulatory oversight is extensive. Compounding the problem is the availability of reliable and cost-effective alternative power sources: shale production in the United States has contributed to a significant drop in gas prices and made natural gas-generated electricity comparatively cheap; also, increased accessibility to lower-cost renewable energy due to declining costs and supportive policies for investment has squeezed the profitability of nuclear generation. Finally, demand for electricity has declined due to a combination of efficiency improvements and manufacturing shifts. As one analyst described the plight of nuclear energy: You cannot roll back the rules of economics.

Second, it's useful to have some historical context. In 1987, Congress amended the Nuclear Waste Policy Act of 1982 and designated Yucca Mountain in Nevada as the exclusive site for the study of a nuclear waste storage facility. In 2002, the decision to go forward was signed by the then-secretary of Energy and approved with overwhelming bipartisan support in both houses of Congress.

In 2008, on the heels of a completed study and the declaration of Yucca Mountain as an appropriate storage for spent nuclear fuel, the U.S. Department of Energy filed for a license to begin construction. Shortly thereafter, however, activity in and around the site rapidly ground to a halt due to opposition from the administration and some of Nevada's politicians. According to the Nuclear Energy Institute (NEI), by 2020, the resulting cost to industry will be almost \$20 billion.

Not surprisingly, the government inactivity has led to a shift in the conversation away from plants producing electricity and creating waste to plants being decommissioned and the waste being stranded on site. If Yucca Mountain is taken off the table as a permanent storage site, every nuclear power plant that has been storing nuclear waste on an interim basis could become its own version of Yucca Mountain. The Maine Yankee Plant, closed in 1997, is still home to 60 nuclear casks and 550 metric tons of waste. As well, the Pilgrim plant in Massachusetts recently announced it is to be closing and is estimated to have 3,000 radioactive rods in storage that will be stored on-site indefinitely.

Utilities owning a nuclear plant are now caught in real bind.

According to press reports, every dismantling decision has been accompanied by a request to divert reserved funds to also cover costs for long-term fuel storage. In the case of Vermont Yankee, this is a double-whammy. Not only are its reserve funds insufficient, forcing the utility to mothball the plant for 60 years until the dismantlement fund is adequate, the utility is pursuing an additional line of credit of \$145 million to build a storage facility and estimates that it will take an additional \$225 million for storage operation and security.

Stranded nuclear waste is precisely what Congress was trying to avoid. It is why Shimkus and others are now working to determine a responsible path forward on nuclear waste storage — a path that is based on science, not politics. To that end, he has called on his colleagues in the Senate, who have repeatedly blocked consideration and funding, to allow the licensing process to move forward.

Some have suggested that a political consensus is needed to pave the way forward for a permanent storage site. But storing nuclear waste properly and safely should not be a decision based on politics, but on science. In the case of Yucca Mountain, there is scientific consensus. It is time to set politics aside, fund the licensing of Yucca Mountain and remove nuclear waste from individual communities across the nation. Storing nuclear waste is too urgent of a public safety issue to be unaddressed by a gridlocked Congress.

Maddox has held several senior positions at the Department of Energy and is a consultant to the Livingston Group.